N61165.AR.004708
CNC CHARLESTON
5090.3a

# TECHNICAL MEMORANDUM FOCUSED APPROACH FOR COMPLETING THE ZONE J RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION CNC CHARLESTON SC

6/5/2002

ENSAFE

# A Focused Approach for Completing the Zone J RCRA Facility Investigation at CNC

PREPARED FOR: CNC BCT and Zone J Trustees

PREPARED BY: EnSafe Inc.

DATE: June 5, 2002

## Introduction

The purpose of the Zone J RCRA Facility Investigation (RFI) is to assess Navy-related impacts to the water bodies adjacent to the Charleston Naval Complex (CNC) as part of the overall basewide assessment. Zone J includes portions of the Cooper River, Shipyard Creek, and Noisette Creek and their associated marsh areas and has several components to the RFI including the Ecological Risk Assessment (ERA). The purpose of this technical memorandum is to provide a summary of the current conceptual approach to the Zone J investigation to the BCT and Zone J trustees and to propose a focused change in the approach for completing the RFI.

Zone J RFI characterizations include evaluations of stormwater discharge, sediments beyond the mean high water mark and the water bodies surrounding CNC. Prior to characterizing potentially affected media, conceptual models were developed for three primary migration pathway scenarios illustrating how a contaminant released from an upland site at CNC could migrate to Zone J:

- **Scenario 1: Transport to Zone J Via Stormwater Drainage Pipeline**
- **Scenario 2: Overland Transport to Zone J Via Sheet Flow**
- **Scenario 3: Transport to Zone J Via Groundwater to Surface Water Discharge**

EnSafe would evaluate migration pathway Scenario 1, and CH2MHILL would evaluate Scenarios 2 and 3.

A majority of the upland sites at CNC underwent a thorough migration pathway analysis to identify CNC sites that may be adversely impacting Zone J or that lack sufficient data for

complete migration analysis (i.e., data gaps). Completion of these checklists identified stormwater effluent data gaps at most sites, and collection of stormwater effluent samples were needed to determine if a potential problem to the Zone J waterbodies exists. In August 2001, consensus was reached by the CNC BCT that the evaluation of the stormwater effluent migration pathway would be the next phase of the RFI to be completed by EnSafe. A work plan to collect stormwater effluent samples was approved in November 2001, and sampling began in January 2002. Based on past historical rainfall data, it was estimated that sampling activities would be completed in approximately six months.

## Focused Approach

To date, of the 72 stormwater effluent samples to be collected in drainage basins, all nine in Noisette and all seven in Shipyard Creeks and 30 of the 56 samples associated with the Cooper River, as well as the 18 reference locations, have been collected. This relates to a completion rate of ~70% of total drainage basins to be evaluated. Anticipated completion of the stormwater effluent phase of the investigation was May 2002, but due to drought conditions in the Charleston area, the timetable was not met and expected completion is now for the summer of 2002. It was determined that once all of the stormwater effluent samples were collected, the next phase of the RFI would be the Screening Level Ecological Risk Assessment (SLERA) process, a major scientific management decision point to determine if the ERA process should continue.

However, due to the timetable delay, EnSafe and the Navy would like to propose a multi-phased approach in completing the Zone J RFI. Instead of waiting for the stormwater phase to be completed, we would like to continue with the overall Ecological Risk Assessment (ERA) process on ~70% of the drainage basins where data has been collected. The first step in this approach would be finalizing the reference values (a technical memorandum on the values is currently being reviewed by BCT members and Zone J trustees) followed by a Stormwater Effluent Report on the samples collected to date identifying contaminants of potential concern (COPCs). COPCs identified from stormwater, surface flow and groundwater scenarios in areas where stormwater collection is complete along with sediment samples from the Cooper River, Shipyard and Noisette Creeks would be further evaluated by EnSafe and discussed in a COPC

refinement report prior to completing the SLERA.

Along with this approach, work would continue on finishing the stormwater sampling phase for drainage basins along the Cooper River. Once completed, an Addendum Stormwater Effluent Report would be submitted. Conceivably, with additional rain events, stormwater sampling may be completed for the remaining Cooper River drainage basins while the SLERA process is underway for Noisette and Shipyard Creeks, and the SLERA would also be completed for the entire Cooper River drainage basins at the same time. Currently, EnSafe is prepared to begin the SLERA process on the Cooper River drainage basins that have stormwater data.

## Conclusion

Since it has been decided by the CNC BCT that the Zone J RFI would be evaluated by specific water body, the focused approach in completing the RFI enhances the evaluation process and can expedite the overall investigation. Supplemental data on Cooper River area hydrodynamics, dredging activities and historical information of the Charleston Harbor area to aid in the evaluation process would be presented in the initial Stormwater Effluent Evaluation Report and not repeated in subsequent reports. Finally, there is enough data collected to start the SLERA process on 70% of the drainage basins being investigated at CNC.